Parameters:

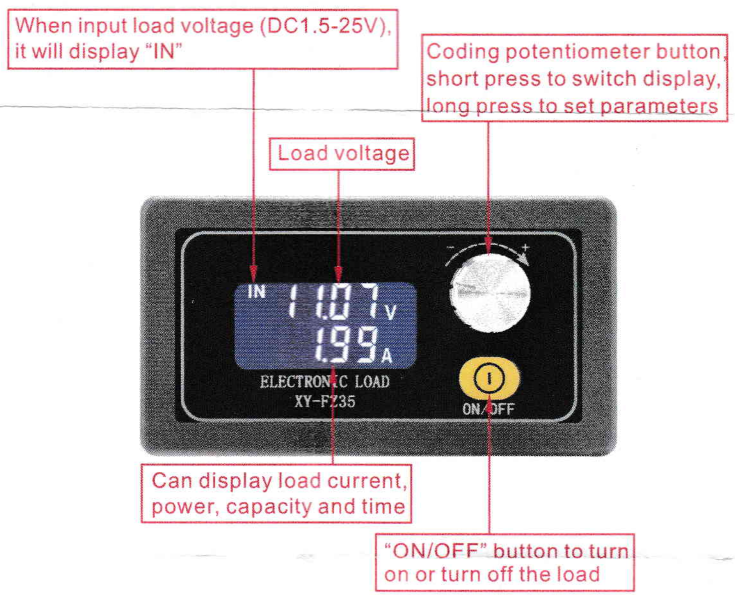
Input voltage range: DC5.0-30.0V (with reverse connection protection)
Load voltage range: DC1.5-25.0V (with reverse connection protection)
Load current range: 0.00-5.00A
Discharge power: 35W
Constant current precision: ±(1%+3digits)
Voltage precision: ±(0.5%+1digit)
Over voltage protection(OVP): default 25.2V (can be reset)
Over current protection(OCP): default 5.10A (can be reset)
Over power protection(OPP): default 35.5W (can be reset)
Low voltage protection(LVP): default 1.5V (can be reset)
Over temperature protection(OTP): default about 80°C (cannot be reset)
Fan rotation speed: 8000±10%RPM

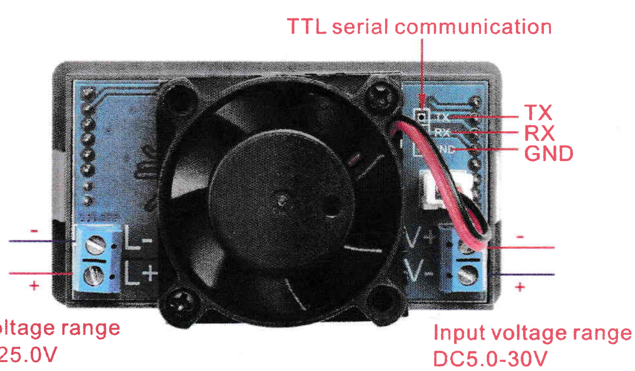
Note:

If it trigger the protection, the LCD display will be flashing and showing the protection, such as OVP, OCP.

When it is applying for battery discharge testing, setting the appropriate LVP value can effectively prevent battery over discharging, so as not to damage the battery.

Module Instruction:





Function Instructions:

A. The initial state of electronic load when power on:

The electronic load automatically saves the ON/OFF state before shutting down and acts as the initial state of the next power-on.

B. Count the discharge capacity and discharge time:

1. Count the discharge capacity: it begins to count when the load current value is not zero, until the next load current is zero, it is believed that the completion of a discharge process, the count ends.
2. Count the discharge time: i it begins to count when the load current value is not zero, until the next load current is zero, it is believed that the completion of a discharge process, the count ends.

C. Set the maximum capacity (OAH) and set the maximum discharge time (OHP):

1. Set maximum Capacity (OAH): when the OAH function is turned on, if the load discharge capacity value is greater than the setting maximum capacity value, the electronic load stops automatically, the LCD flashes and displays "OAH", and when the OAH alarm is removed, the capacity statistics are automatically emptied;
2. Set the maximum discharge time (OHP): when the OHP function is turned on, if the load running time value is greater than the setting maximum discharge time value, the electronic load stops automatically, the LCD flashes and displays "OHP", and when OHP alarm is removed, the time statistics are automatically emptied.

Note: when the OAP and OHP function are turned off, the electronic load will record the discharge capacity and discharge time, after turning on the OAH and OHP function, the electronic load will stop working when it reaches the setting value; when the OHP function is turned on, the running time of the electronic load is under the countdown mode.

OAP and OHP function, can be used to achieve unattended power aging testing.

D. Data group function:

Divided into "DAT0", "DAT1"

DAT0: Flashing shows only the capacity value and running time of the previous stage, and does not add up to the next stage;

DAT1: Flashing shows the capacity value and running time of the previous stage, and automatically adds up to the next stage;

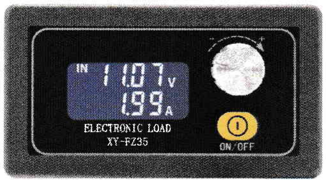
Interface Operation Instructions:

A. The operation interface operation instructions:

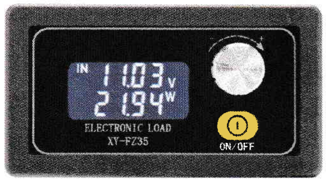
1. The electronic load is powered on and then enters the operating interface, which is used to turn the electronic load on or off by short pressing the "ON/OFF" button, and to modify the current of the electronic load in real time by rotating the coding potentiometer;
2. Short press the coding potentiometer button to switch display (current/power/capacity/time);
3. In any display interface, rotating coding potentiometer will automatically switch to the current display interface;
4. In the current display interface, long press "**ON/OFF**" button to turn the data lock function on or off, if the data lock function is turned on, the locking symbol "|-" will be displayed in front of the current, at this time cannot adjust the load current in real time by rotating the encoding potentiometer to prevent disoperation;
5. In the capacity/time interface, long press "**ON/OFF**" button to empty the corresponding capacity/time data.

Short press the coding potentiometer button to switch display

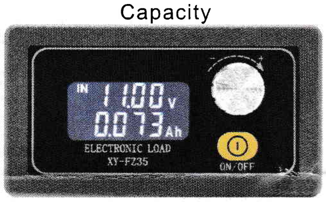
Current



Power



Capacity



Time



Long press "ON/OFF" button to turn the data lock function on or off, if the data lock function is turned on, time cannot adjust the load current in real time by rotating the coding potentiometer to prevent disoperation



B. The setting interface operation instructions:

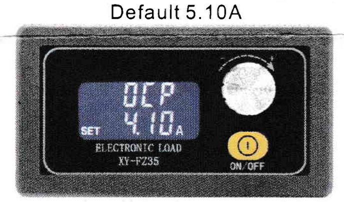
1. In the running interface, long press coding potentiometer to enter the setting interface;
2. By rotating the coding potentiometer, adjust the parameters, clockwise to increase, and counterclockwise to decrease; switch the parameters that need to be modified by short pressing the coding potentiometer;
3. In the maximum capacity (OAH)/Maximum discharge time (OHP) parameters interface, short press "**ON/OFF**" button to select the corresponding function of the turn on or off, if turned off, the LCD displays "----";
4. In the maximum capacity (OAH) parameter interface, short press "**ON/OFF**" button to select the capacity range (9.999Ah/99.99Ah/ 999.9Ah/9999Ah);
5. Finishing parameter setting, long press coding potentiometer, exit the Setting interface, set parameters will be automatically saved.

Long press the coding potentiometer to enter the Setting interface

Set over voltage protection (OVP)
Default 25.2V



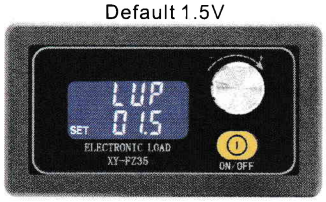
Set over current protection (OCP)
Default 5.10A



Set over power protection (OPP)
Default 35.5W



Set low voltage protection (LVP)
Default 1.5V



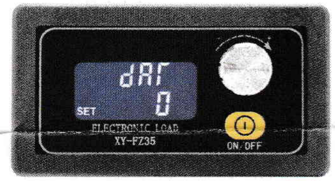
Set maximum capacity (OAH)



Set maximum discharge time (OHP)



Set data group (DAT)
Default 0



Serial port Control (single-chip TTL level communication)
Baud Rate: 9600 bps
Data bits: 8
Stop bits: 1
Check bit: None
Flow control: None

Serial Port Commands	Note
start	Start upload
stop	Stop upload
on	Turn on load function
off	Turn off Load function
x.xxA	Set load current
LVP:xx.x	Set low voltage
OVP:xx.x	Set over voltage
OCP:x.xx	Set over current
OPP:xx.xx	Set over power
OAH:x.xxx	Set maximum capacity
OHP:xx:xx	Set maximum discharge time
read	Read product parameter settings

Data upload format:

No alarm status:
Load supply voltage, load current, capacity value, discharge time;
11.90V,0.11A,0.004Ah,00:02 → Load voltage 11.90V, load current 0.11A, capacity 0.004Ah, discharge time 00:02;
Note: If the maximum discharge time is turned on, 00:02 indicates a countdown;

Alarm Status:
Upload Alarm status code (OVP/OCP/OPP/LVP/OAH/OHP/OTP)

Read product parameter settings:
OVP:25.2, OCP:5.10, OPP:35.5, LVP:1.50,OAH:0222,OHP:00:00, Over voltage, over current, over power, low voltage, maximum capacity, maximum discharge time

FZ35 5A 35W Electronic Load Tester

1.Description:

The industrial-grade long-life electronic load tester adopts long-life ball fan which has fast rotating speed and strong wind.It supports continuous discharging for non-stop work and suitable for long-period discharge or the factory do aging test for products.It is suitable for testing the charger's output current capability, charger batch aging test, measuring battery load capacity, etc.

2.Features:

1>.With outer casing

2>.LCD high definition display

3>.Support UART

4>.High precision 0.01A

5>.Support over-voltage protection

6>.Support over-current protection

7>.Support under-voltage protection

8>.Support over temperature protection

9>.Multiple parameters are displayed simultaneously

10>.Automatically count working hours

3.Parameters:

1>.Product name: FZ35 5A 35W Electronic Load Tester

2>.Model: FZ35

3>.Work voltage:DC 5.0V-30V

4>.Rated load voltage:DC 1.5V-25V

5>.Rated load current:5A

6>.Power:35W

7>.Current accuracy:1%

8>.Voltage accuracy:0.5%

9>.Over voltage protection:Default 25.2V(Adjustable)

10>.Over current protection:Default 5.10A(Adjustable)

11>.Over power protection:Default 35.5W(Adjustable)

12>.Under voltage protection:Default 1.5V(Adjustable)

13>.Over temperature protection:About 80℃(Unadjustable)

14>.Fan speed:8000RPM+/-10%

15>.Work Temperature:-40℃~85℃

16>.Work Humidity:0%~95%RH

17>.Size:79*43*56mm

4.Function:

1>.Display current A,voltage V,power W,capacity Ah and Discharge time

2>.Perfect protection mechanism

3>.Automatically count discharge capacity and discharge time

4>.Supports setting maximum discharge capacity (OAH) and maximum discharge time (OHP).(Achieve unattended for power aging test)

5>.Intelligent temperature control fan.The fan automatically starts when the power is greater than 10W or the temperature is greater than 40℃

6>.Rotary coded potentiometer for precise current adjustment to 0.01A

7>.The current can be locked to prevent misoperation

8>.Data group function:user can choose whether to accumulate the capacity value and running time of the previous phase

9>.Support UART data communication

5.Protection mechanism:

1>.FZ35 supports reverse protection for input terminal.

2>.FZ35 supports reverse protection for output terminal.

3>.OVP over voltage protection.The default protection value is 25.2V.But user can modify the values as required.Screen will display OVP and flashing after start over voltage protection.

4>.OCP over current protection.The default protection value is 5.10A.But user can modify the values as required.Screen will display OCP and flashing after start over current protection.

5>.OPP over power protection.The default protection value is 35.5W.But user can modify the values as required.Screen will display OPP and flashing after start over power protection.

6>.OTP over temperature protection.The default protection value is 80℃.It can not be modified!Screen will display OTP and flashing after start over temperature protection.

7>.LVP under voltage protection.The default protection value is 1.5V.But user can modify the values as required.Screen will display LVP and flashing after start under voltage protection.In the battery discharge test, setting the appropriate LVP can effectively prevent the battery from being over-discharged, so as not to damage the battery.

6.Initialization state:

Automatically display the last parameter value.

7.Discharge capacity and discharge time statistics:

1>.Discharge capacity statistics:FZ35 start to statistics when load current is not zero.After the next load current is zero, it is considered that a discharge process is completed and the statistics are over.

2>.Discharge time statistics:FZ35 start to statistics when load current is not zero.After the next load current is zero, it is considered that a discharge process is completed and the statistics are over.

8.Set OAH and OHP:

1>.Set maximum capacity OAH:FZ35 automatically stops working and flashes "OAH" on screen when the load discharge capacity is higher than the set maximum capacity after enable OAH function.The capacity statistics are automatically cleared after the OAH alarm is released.

2>.Set maximum discharge time OHP:FZ35 automatically stops working and flashes "OHP" on screen when the load discharge time is more than the set maximum discharge time after enable OHP function.The discharge time statistics are cleared automatically after the OHP alarm is released.

3>.The OAH and OHP can be perfectly implemented unattended for power aging test.

4>.FZ35 will record discharge capacity and discharge time even if OAH and OHP are not enable.But FZ35 stops working after reaching the set value if OAH and OHP are enable.The running time of the FZ35 is the countdown mode when enable OHP.

9.Data group function DAT:

1>.DAT0:Only flashing and display the capacity value and running time of the previous stage, and not adding to the next stage.

2>.DAT1:Flashing and display the capacity value and running time of the previous stage, and automatically added to the next stage.

10.Run interface description:

1>.Press 'ON/OFF' button to turn ON FZ35 after power on.

2>.Set current value by rotary potentiometer.

3>.Press potentiometer to switch display parameter on the second line.The first line display voltage and the second line display current/power/capacity/time.

4>.Screen will display current when rotary potentiometer at any display interface.

5>.Keep press 'ON/OFF' for more than 3 seconds to lock parameter at current display interface.Screen will display lock symbol if enable data lock function.At this time, the load current cannot be adjusted in real time by the rotary potentiometer to prevent misoperation.

6>.Keep press 'ON/OFF' for more than 3 seconds to clear the corresponding capacity/time data at capacity/time display interface.

11.Setting interface description:

1>.Keep press potentiometer for more than 3 seconds to enter set parameter interface.

2>.Set load current by rotary potentiometer.Increase the current value clockwise.

3>.Switch set parameter by press potentiometer.

4>.Press 'ON/OFF' button to enabled or disabled OAH(OHP) function at OAH(OHP) display interface.Screen will display '----' if disabled OAH(OHP) function.

5>.Rotary potentiometer to set value at OUP/OCP/OPP/LUP/OAH/DAT parameter.

6>.Keep 'ON/OFF' button to set capacity range at OAH interface.Each time press button, the decimal point moves by one, and then rotates the potentiometer to modify the value.The capacity range is 9.999Ah/99.99Ah /999.9Ah/9999Ah.

7>.At OHP set interface,the second line will display '--:--'.User need press 'ON/OFF' button to set hours and minutes parameters and then rotary potentiometer to set value.

8>.Keep press potentiometer for more than 3 seconds to save parameters after setting is complete.Then exit the settings interface.

12.Use steps:

1>.Connect to work voltage at 'V+' and 'V-'.
2>.Set right parameters as set manual.
3>.Remove work voltage and connect load.
4>.Re-power.Test and use.

13.Application:

1>.Load test
2>.Circuit test
3>.Battery test
4>.Factory equipment inspection

14.Note:

1>.It can not output voltage.User need connect load power supply for load.
2>.Please read use manual and description before use.

15.Package:

1>.1pcs FZ35 5A 35W Electronic Load Tester;

UART communication and parameter settings		
No.	Parameter	Value
1	Baud rate	9600bps
2	Data bits	8bit
3	Stop bit	1bit
4	Check bit	none
5	Flow control	none

No.	UART Command	Function
1	Start	Enabled UART communication
2	Stop	Disabled UART communication
3	ON	Enabled Load
4	OFF	Disabled Load
5	x.xxA	Set Load Current Value
6	LVP:xx.x	Set LVP Under Voltage Protection Value
7	OVP:xx.x	Set Over Voltage Protection Value
8	OCP:x.xx	Set Over Current Protection Value
9	OPP:xx.xx	Set Over Power Protection Value
10	OAH:x.xxx	Set maximum capacity Value
11	OHP:xx:xx	Set maximum discharge time
12	Read	Read Parameter

Data upload format
Unalarmed status:
Load supply voltage, Load current, Capacity value, Discharge time
11.90V,0.11A,0.004Ah,00:02 -->Load voltage 11.90V;Load current 0.11A;Capacity 0.004Ah;Discharge time 2 minutes
Note:'00:02' is the countdown time if enabled maximum discharge time.
Alarm status:
Upload alarm status code:OVP/OCP/OPP/LVP/OAH/OHP/OTP
Return for Read command:
OVP:25.2, OCP:5.10, OPP:35.5, LVP:1.50,OAH:0222,OHP:00:00
Over voltage;Over current;Over power;under voltage;maximum capacity;maximum discharge time

Interface description

Potentiometer Button
Rotary potentiometer to set parameter value
Short press to switch dispaly parameter at second line
Long press to enter set parameter interface

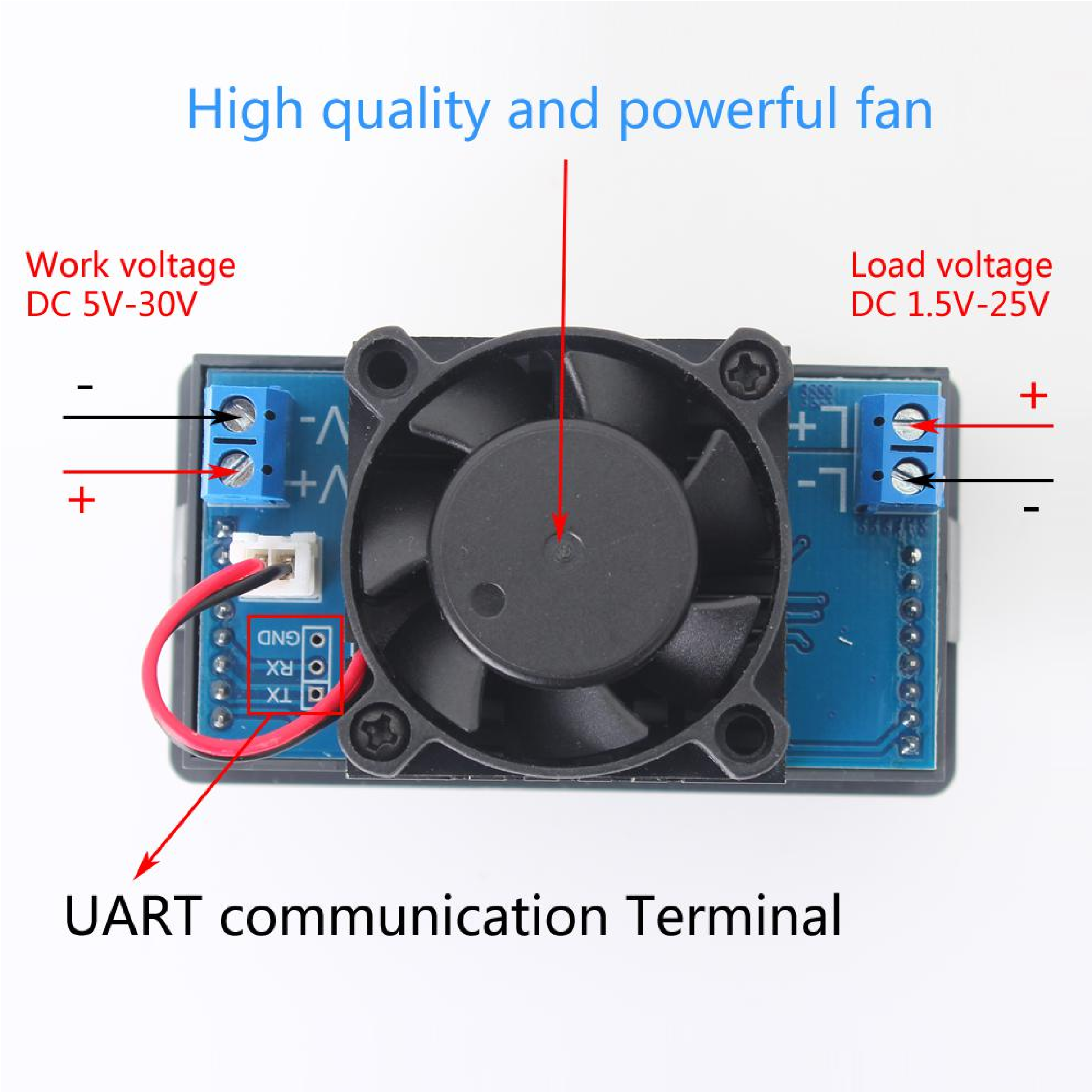
Display ‘IN’ when input
work voltage

Load voltage display
at the first line



current/power/capacity/time
display at the second line.

ON/OFF button to
turn ON/OFF load.


High quality and powerful fan
Work voltage
DC 5V-30V
Load voltage
DC 1.5V-25V
-
+
+
-
GND
RX
TX
UART communication Terminal

Short press potentiometer switch display

Display Load Current



Display Load Power



Display Capacity



Display discharge time



Keep press ON/OFF button for more than 3 seconds to lock parameter at current display interface.Screen will display lock symbol if enable data lock function.At this time, the load current cannot be adjusted in real time by the rotary potentiometer to prevent misoperation.



Long press potentiometer to select set parameter

Set Over Voltage Protection

OVP:Default 25.2V



Set Over Current Protection

OCP:Default 5.10A



Set Over Power Pretection

OPP:Default:35.5W



Set UnderVoltage Protection

LVP:Default 1.5V



Set Maximum capacity

OAH



Set Maximum discharge time

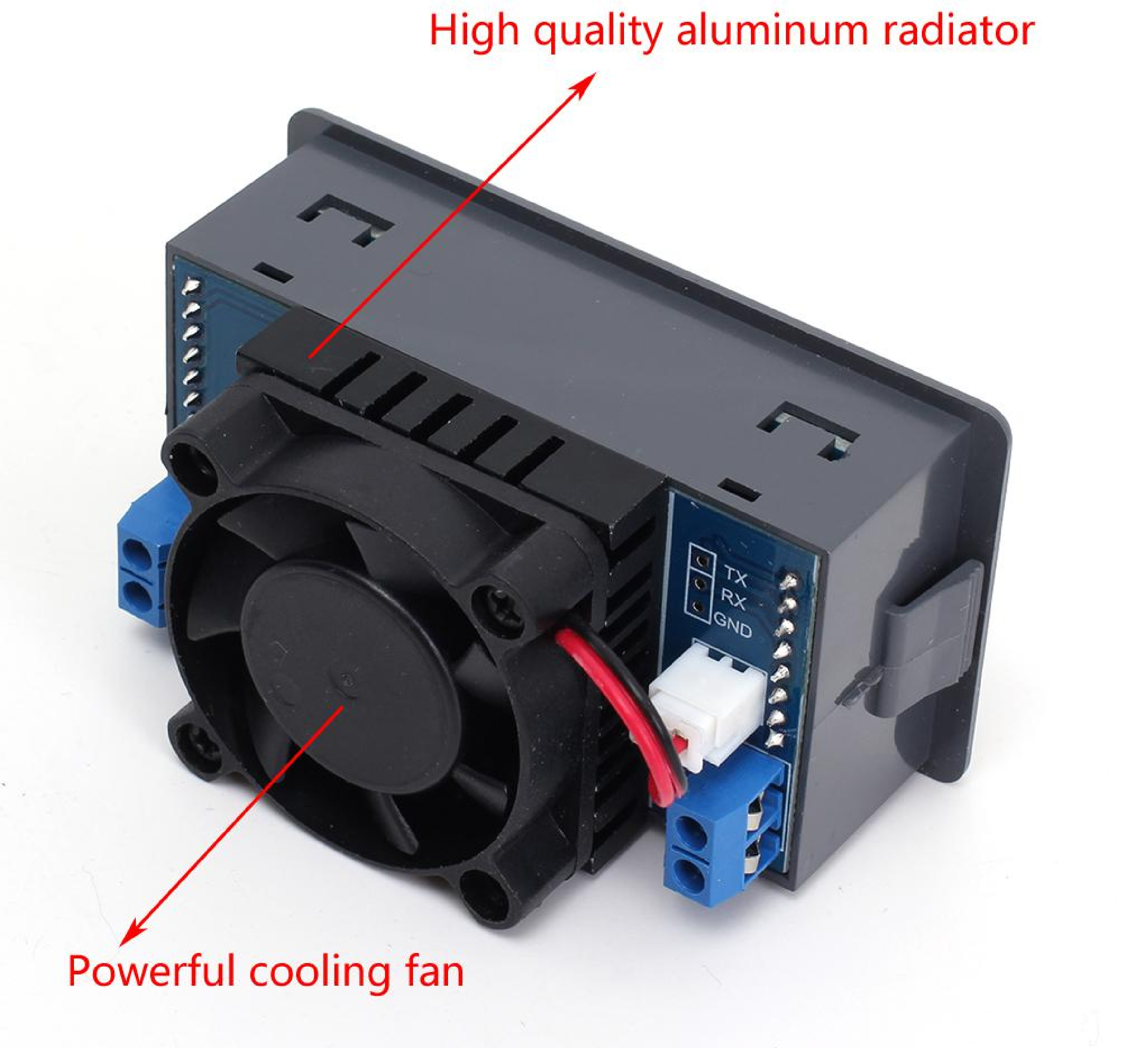
OHP



Set Data Group Function

DAT:Default 0




High quality aluminum radiator
TX
RX
GND
Powerful cooling fan


23mm
46mm
10mm
39mm
13mm
ON/OFF
ELECTRONIC LOAD
XY-FZ35
43mm
79mm